PHYSICO- CHEMICAL CHARACTERIZATION AND MICROBIAL ISOLATION OF BACTERIA ASSOCIATED WITH PASTEURIZED BUFFALO MILK FROM A DAIRY COOPERATIVE IN NUEVA ECIJA

KATHLEEN OLIVIA B. MARTIN

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ACCEPTANCE SHEET

This undergraduate thesis entitled **"PHYSICO- CHEMICAL CHARACTERIZATION AND MICROBIAL ISOLATION OF BACTERIA ASSOCIATED WITH PASTEURIZED BUFFALO MILK FROM A DAIRY COOPERATIVE IN NUEVA ECIJA"** prepared and submitted by **KATHLEEN OLIVIA B. MARTIN**, in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN BIOLOGY (MICROBIOLOGY)**, is hereby accepted.

ZOSIMO G. BATTAD II, M.Sc.
Adviser

06-11-18
Date signed

FEDERICO G. PINEDA, M.Sc.
Critic

11 June 2018
Date signed

RICH MILTON R. DULAY, M.Sc.
Department Research Coordinator

6/11/18
Date signed

Accepted as partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN BIOLOGY (MICROBIOLOGY)**

ANGELES M. DE LEON, Ph.D.
Chair, Department of Biological Sciences

Date signed

RICH MILTON R. DULAY, M.Sc.
College Research Coordinator

6/11/18
Date signed

EVARISTO A. ABELLA, Ph.D.
Dean, College of Arts and Sciences

Date signed

BIOGRAPHICAL SKETCH

The author Kathleen Olivia Martin was born on January 18, 1998 at Talavera, Nueva Ecija. She currently resides at Purok 1, San Pascual, Talavera, Nueva Ecija. She is taking up BS Biology major in Microbiology at Central Luzon State University. She was an academic scholar for seven semesters. The author took up her secondary education at Talavera National High School under Engineering Science Education Program and graduated 2nd Honorable Mention alongside being the Outstanding Journalist of the Year, being a qualifier to the National School Press Conference in Science Writing Division. She took her primary education at San Pascual Elementary School and graduated Class Salutatorian. The author had her On-the-Job Training at Crop Protection Division at Philippine Rice Research Institute-Central Station, Science City of Munoz, Nueva Ecija. She is having job orders related to Quality Control Assurance at Philippine Carabao Center where she is also conducting her thesis.

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ABSTRACT

MARTIN, KATHLEEN OLIVIA B., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **MAY 2018, PHYSICO- CHEMICAL CHARACTERIZATION AND MICROBIAL ISOLATION OF BACTERIA ASSOCIATED WITH PASTEURIZED BUFFALO MILK FROM A DAIRY COOPERATIVE IN NUEVA ECIJA**

Adviser: ZOSIMO G. BATTAD II, M.Sc.

Pasteurized buffalo milk from a dairy cooperative in Nueva Ecija was evaluated through its physico- chemical properties and microbial load. Organoleptic tests were done alongside with the four platform tests namely, alcohol precipitation, lactometer, titratable acidity, and clot on boiling tests. The microbial load of the milk was determined through standard plate count. After three samplings, the study concluded that within the freshly pasteurized state of the milk it satisfies all the given standard, its second and fifth day state shows that the milk is not fit for consumptions since it failed to satisfy the given standards. Presence of enteric bacteria was detected on two samplings, however on the third sampling the enteric bacteria was not detected, this may be attributed to the ocular visit done at the dairy cooperative before the third sampling. Isolates were produced and characterized by conventional method. It was found that Gram negative organisms dominated the pasteurized milk sample and biochemical analysis using API 20 E revealed that these isolates belong to genus *Stenotrophomonas, Chryseobacterium, Pantoea, Pseudomonas* and *Cronobacter.*

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